156. It will be seen that there is an increase on the whole in the number of cattle, and especially in that of the sheep and goats in almost all the Collectorates of the Northern Circle.

157. Considering the short time they have been introduced, the grazing rules have worked very fairly, for they do not exact heavy fees; and with time and perseverance they will work smoothly as the people fall into their ways, and the village officers understand that the issue of grazing permits to the cattle which enter the forests to graze without having taken out permits previously, is preferable treatment of illicit grazing in *open forest* than the impounding of such cattle, unless they are goats and sheeps.

6.—FENCING.

158. The fencing of exploited coupes with wire was continued in the two ranges of Dáhánu and Bassein of the North Thána Division during the year, 12,212 running feet of wire fencing having been erected, and a large quantity of wire was obtained for employment during the coming season; coupes require to be fenced on the lower boundaries in order that cattle may be kept out, but the work is expensive.

159. In the South Thána Division a wire fence 2,565 feet in length was erected round the Bendikon coupes of the Khardi range which were felled in 1888, 1890; and an additional and barbed wire was put round the Sháhápur coupes.

160. In the Niphád range of the Násik Division 260 feet of the Naitala forest reserve were fenced with Sabri (Euphorbia tirucalli) at a cost of Rs. 13-3-6.

161. Wire fencing was put up round the Arangaon, Valunj and Limpangaon Reserved Forests in the Ahmednagar division, 829 acres being enclosed by 48,080 running feet of fencing; three lines of wire were used, the first being one foot above the ground, the second two feet, and the third 3½ feet, the central wire on some portions being barbed wire. Teak posts were used as stobs or uprights, and were sunk 2½ feet in the ground, and were placed at distances of 10 feet. The cost of this fencing came to Rs. 6,367-10-6, or about Rs. 4-6-7 per 100 running feet; 15,093 lbs. of old telegraph wire ranging 600 lbs. to the mile have been received from the Telegraph Departments for further fencing purposes. In addition to the above, all the bábul compartments, which had been exploited before the rains, were enclosed by thorn hedges, and 100 bulbs of aloe (agave americana) were planted out by each forest guard along the boundaries of his forests, free of charge.

162. In the Poona Division wire fencing was erected along forest boundaries, as under:—

(1) 8,640 running feet at Dongargaon round a bábul reserve on the bank of the Indráyani river in the Haveli range;

(2) two miles at Lonikálbhor in the Haveli range completing the 12 miles of wire fencing of the hill-side Reserved Forest overhanging the Southern Marátha Railway line;

(3) 24,638 feet round bábul compartments at Kedgaon, Párgaon and Handalwádi in the Bhimthadi range.

8,648 lbs. of old wire were purchased from the Telegraph Department, and 2,500 teak and junglewood posts were obtained from the forests of the Haveli range and also from the South Thána division.

In addition to the above 8,740 feet of aloe and thorn fence were put up in the Indápur range, 29,294 feet of thorn fencing in the Bhimthadi range, and a small quantity in the Haveli range round exploited coupes in the bábul forests.

163. No wire fencing has yet been attempted in the Sátára division, but during the year 11,100 feet of aloe fencing were planted round small plantations, and along the edges of coupes.

164. Aloe fencing has been undertaken to the extent of 32,984 feet in the Sholápur, Mádha, Pandharpur and Sángola ranges in the Sholápur division, at a cost of Rs. 208-10-6; however useful this kind of fencing may be to define boundaries, and for the protection of the latter, it is useless against trespassing cattle, which make gaps in it where they do not find them ready made. The only reserve at present protected by a wire fence is at Karmála, where about 424 acres have been enclosed; the results from the protection thus secured are very obvious to even the most casual observer; a quantity of strand and barbed wire has been obtained for enclosing other reserves, but there is a difficulty in getting teak posts.

7.—NATURAL REPRODUCTION.

165. There is nothing new to add under this heading to the reports of former years. Natural reproduction is very vigorous everywhere in the Thána district whether from seed or from stool; an enormous number of seedlings, however, are killed annually by fires or by cattle, whilst many die in the hot weather; given protection from fire and grazing and mischief, the forests everywhere may be trusted not only to maintain themselves, but to increase in value. The regrowth in the closed compartments which were recently coupes under exploitation is generally vigorous and very luxuriant, so that the regeneration of the forests and their enhanced condition at the end of the rotation now being pursued may be expected with confidence. The new growth in the coupes is principally coppice, but a fair number of seedlings come up: the latter, however, suffer more than the former when fire overruns the compartment. The seeding in the Thána forests was very bad during the year, especially in the case of teak trees; the heads of flowers were numerous on the teak trees, but in most cases became barren, and often where drupes had formed, it was found that the seeds contained had not ripened. A great deal of damage was done to the teak by caterpillars during the rains and up to the second week of November, when they suddenly disappeared; these caterpillars were of small size, greyish black, with a brown head, and were in such myriads that the leaves of all the teak trees in the district were reduced to skeletons of net-work, the caterpillars eating all the parenchyma of the leaves, and leaving only the fibres intact. The effect of this visitation on the trees, especially on young seedlings and coppice shoots, the tender leaves of which were especially toothsome to the caterpillars, must have been disastrous upon the increment of wood, besides weakening the trees; it is a noticeable fact that the trees broke out into new leaf much earlier in 1892 than ordinarily. A partial seedling of the manvel bamboo took place during the year, chiefly in the Máhim range, and seeds have been collected for broad-casting in forests, where the bamboo is not. On the whole, there is no reason to complain of the condition and progress of natural reproduction in the forests of the Thána Collectorate; and if protection continues to be good, even as good as it is now with such an excellent Forest-Collector as Mr. Sinclair in charge of the district, the commercial value of the forests will augment marvellously before the current revolution of the working plans has run its course.

166. In the Khándesh district natural re-production by seed and shoot is retarded in a great measure by the want of complete fire protection and by heavy grazing. In places where these hostile agencies are disappearing reproduction by seed especially is conspicuous, and it is as certain as day succeeds night that where fires are kept out and grazing is regulated under proper control, natural improvement of the forests asserts itself. In the Sátpudás, in the Sahyádri forests, in the Sátmálas, in the Jámner teak belt, in the Central forests south of the Tápti which were considered to be nearly beyond redemption a few years back, where these conditions of protection have been secured, reproduction by seed is, as a rule, good, and the forests are perceptibly better, blanks having filled and decreased in spread, and fine upright saplings with clean cylindrical stems showing themselves prominently in healthy race for the overhead light. In the bábul forests the exploited coupes, when closed, reproduce themselves quickly if protection is efficient. Some old coupes in the Transpurna forest were traversed by fire in the hot weather of 1891, for the first time after 10 years, and a lamentable destruction of seedlings and saplings is the result: it was intended to open these compartments to cattle after the rains of 1892, but now